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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,087

06/15/2005

Reuven Sharony

26838U

9065

20529

7590

08/08/2007

NATH & ASSOCIATES  
112 South West Street  
Alexandria, VA 22314

EXAMINER

LAMPRECHT, JOEL

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

08/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/539,087

Applicant(s)

SHARONY, REUVEN

Examiner

Joel M. Lamprecht

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. Claims 1-5, 16-23, 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatemi (US 6,709,407 B2) in view of Yamauchi (US 7,110,583 B2). Fatemi discloses a method for measuring motion of a fetus or region of a fetus inside a uterus by determining a parameter indicative of movement, a second parameter indicative of motion, determining the difference between the two to determine motion of the fetus relative to the structure of the uterus (Col 4 Line 55-Col 6 Line 30), displaying one or more parameters indicative of motion including displacement, means for determining movement outside the lumen or inside the lumen as well as the necessary software, digital storage (Col 4 Line 35-55), and readable medium required for the execution of the aforementioned methods.
2. Fatemi discloses what is listed above substantially, but fails to disclose tracking the contour of the lumen from image to image specifically. Fatemi hints that they are able to designate fetal motion and use a controlled stimulus to do so. Additionally, Fatemi has the capacity through stimulation to move the fetus to a desired location within the uterus, an assertion which would require the capacity to define the lumen through imaging, nevertheless attention is paid to the secondary reference by Yamsuchi which focuses on contour definitions and tracking those contours (Fig 7-10, Col 2 Line 62-Col 3 Line 40, Col 22 Line 15-40). Specifically, Yamsuchi discloses tracking contours in conjunction with motion estimations and displacements for the purpose of assessing various medical conditions (Col 14 Line 20-50, Col 12 Line 25 – Col 13 Line

45) It would have been obvious to one of ordinary skill in the art at the time of the invention to use the contour tracking methods of Yamsuchi with the fetal motion determinations of Fatemi to substantially define the movements both inside and outside of the contour of the lumen.

Claims 6-15, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatemi (US 6,709,407 B2) in view of Yamauchi (US 7,110,583 B2) and in further view of Fatemi et al (US 6,511,429 B1). Fatemi ('407) and Yamauchi disclose the invention as mentioned above but fail to mention detecting brightness in pixels, determining a center of gravity for pixels inside and outside the lumen within the image. Attention is then directed to Fatemi et al ('429), which describes transmission mode brightness as a function of amplitude and "time-of-flight". While Fatemi ('407) does not discuss brightness as a property but discusses amplitude based data and time-of-flight data as important to Doppler fetal motion calculations (Col 4 Line 50-Col 5 Line 38). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used common B-mode adjustments and the properties disclosed by Fatemi ('429) of brightness in the fetal motion tracking methods of Fatemi ('407) and Yamauchi ('583) for the purpose of allowing for a direct mapping of amplitude and time-of-flight characteristics for the desired regions.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel M. Lamprecht whose telephone number is (571) 272-3250. The examiner can normally be reached on Monday-Friday 7:30AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JML  
7/31/07

  
BRIAN L. CASLER  
PRIMARY PATENT EXAMINER  
BIOLOGY CENTER 3700